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ENERGY

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GASIFICATION OF ESTONIA STUDIED

Tallinn RAHVA HÄÄL in Estonian 6 Sep 81 p 1

[Article by Ado Pesur, chief engineer of the Main Administration for Gasification of the ESSR: "The Importance of Natural Gas in the Fuel Balance Is Growing: Particular Attention to Economical Fuel Usage"]

[Text] Oil and gas are important factors in the fuel balance of our country. The gas industry has progressed rapidly in recent years. Currently, 10 times as much natural gas is being produced in the USSR as in 1960; gas production will increase to 458 billion cubic meters this year.

The 26th CPSU Congress required that gas workers increase natural gas production to 600 to 640 billion cubic meters by 1985. Thus, natural gas is beginning to displace oil products.

In the USSR, a uniform, automated gas supply system, which allows for flexibility in meeting user demand, has been established. A number of underground storage facilities have been built in the basic consumption areas. Since gas production is becoming more distant from the basic consumer, new powerful pipelines and compressor stations must be established. In recent years, thousands of kilometers of new pipeline and scores of compressor stations have been established. In cooperation with other CEMA countries, the largest European gas system, "Soyuz," was built from Orenburg to the western border of the USSR. Natural gas has become an important export article for the USSR; it is being supplied to 12 European countries.

Particular attention is being paid to exploiting the promising new gas deposits in West Siberia. By 1985, West Siberia is to provide more than half of the natural gas production. Work there is proceeding under very difficult natural conditions, but the gas producers are successfully overcoming the difficulties and are providing the national economy with billions of cubic meters of valuable fuel each year.

The gas workers of our republic also are making a contribution to the development of gas economy. The goal of gasifying residences is being met. Housing units that have been gasified over and above the plan number 1,100. Currently, 398,000 consumers in the ESSR are using gas, and 80 percent of the housing units have been gasified. The gasification of boiler houses has led to cleaner air in our towns and rural areas. One-hundred, sixty-four large boiler houses and 3,815 communal type enterprises have been gasified. Natural gas consumption has doubled since 1975.

This June, the republic government approved measures to expand natural gas use in the ESSR economy. A broad gasification of enterprises, sovkhoz and kolkhoz is planned. Sixty-five boiler houses and 25 drying houses will be gasified in kilkhozes and sovkhozes. Sixty-one boiler houses will be gasified in towns and villages. Thus, the gasifiers of our republic can look forward to intensive work during the next 5-year plan. The construction of the Izborsk compression station is in its final stages; the Tartu compression station is to be built during the current 5-year plan.

Particular attention is being paid to economical gas usage. The industrial boiler house modification section of the "Tallinngaas" administration has done a great job of ensuring rational fuel usage in boiler houses. Strict controls over gas usage have been established. In cooperation with energy technicians of the enterprises, 14.6 million cubic meters of the valuable fuel were saved in the first half of this year. Work in that direction must proceed.

In the socialist competition of gas enterprises, first place and the Challenge Red Banner of the ESSR Council of Ministers and the ESSR Council of Trade Unions was won in the 2d quarter by the collective of the Rakvere office of the Interrayon Gas Management. The Valga office of the Interrayon Gas Management, the Tartu Town Gas Management office, and the collective of the "Remgaas" plant also did good work. For achievement in the socialist competition among the republic's gas workers, distinction is due to welder Harald Kaare of the "Remgaas" plant, to plumber-welders Kalju Rästa and Vambola Lehtjärv of the emergency service of the "Tallinngaas" administration, to driver-balloon deliverer Harald Tui of the Rakvere office of the Interrayon Gas Management, and to several other distinguished workers. Even today, on the Day of the Gas Worker, many members of our collectives are at their jobs.

I wish them and all gas workers a good holiday, strong health, and success in meeting the tasks of the 11th Five-Year Plan.

9240
CSO: 1815/5

ELECTRIC POWER

NUCLEAR POWER USE WITHIN CEMA

Moscow GUDOK in Russian 26 Aug 81 p 4

[Article by A. Nikol'skiy: "Novovornezhskaya Competition"]

[Text] Nuclear power engineering will develop at an advanced pace in CEMA nations in the 1980's. With the increasing cost of traditional types of fuel, the remoteness of their extraction sites from consumers and the complexities of transportation, nuclear electric power stations are demonstrating their own high economic efficiency. The utilization of nuclear power also meets ecological requirements: AES's do not pollute the environment with sulfur compounds, ash and other harmful substances.

In many of the CEMA member nations, nearly the entire increase in electrical power generation up to 1990 will be met primarily through the development of nuclear power engineering, and in individual nations, AES's will become one of the most important sources of electrical and thermal power in the upcoming 10 to 15 years. While the capacity of nuclear electric power stations in nations of socialist cooperation (with the exception of the USSR) amounted to 3.7 million kilowatts at the start of the decade, by the end of the 1980's, the capacity will increase by a factor of nearly 10.

The basis for AES's is a standard power unit, equipped with a water-moderated, water-cooled reactor (VVER-440) with a capacity of 440,000 kilowatts. Both the structural design of the reactor and the production process for the construction of the station itself were developed in the USSR and tested for the first time at the Novovoronezhskaya AES. Its third and fourth power units, which have been in service since the beginning of the 1970's, have become the progenitors of a single family of nuclear power stations within the CEMA framework. The GDR was the second socialist nation after the Soviet Union to enter the "nuclear power engineering club". Now, the AES imeni Bruno Leushner in the north of the republic close to the city of Greifswald is gaining strength. Some four Novovornezhskaya type units are ready. Similar electric power stations are on line and being built in Bulgaria, Czechoslovakia and Hungary. The "Novovoronezhskaya Competition" will continue in Cuba. The first-born of Cuban nuclear power engineering with a capacity of 880,000 kilowatts is being constructed with the technical assistance of the USSR.

Up until now, the issue has been first generation nuclear electric power stations. In the meantime, a fifth power unit with a capacity of one million kilowatts has gone on line at the Novovoronezhskaya AES, where this unit has become the progenitor of a new family of nuclear power stations within the CEMA framework.

The first international nuclear power engineering facility is going up in the Western Ukraine: the Khmel'nitskaya AES with a capacity of 4 million kilowatts is being built by the combined forces of the Hungarian Peoples Republic, Polish Peoples Republic, the USSR and the CSSR.

One of the most important ways of increasing economic efficiency of nuclear power engineering in CEMA member nations is the design and mastery of nuclear central heat and electric power stations (ATETs) and nuclear heat supply stations (AST's). And the collective which constructed the Novovoronezhskaya AES is again setting the tone in this chapter of nuclear power engineering. The collective has set about construction of the first nuclear station in the USSR which will provide heat to the residential housing and industrial enterprises of Voronezh.

8225
CSO: 1822/242

ELECTRIC POWER

GOSSNAB SUPPLIES NUCLEAR POWER STATIONS

Moscow MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE in Russian No 6, 1981 pp 53-55

[Article by V. Kryuchkov, department chief of the Administration for the Provision of Material Resources for Capital Construction of the USSR Gossnab: "Clear-Cut Support for Nuclear Power Engineering"]

[Text] The Oskol'skiy Metallurgical and Sayanskiy aluminum plants, the Kacharskiy mining and ore-dressing and Tobol'skiy petrochemical combines, Priazovskaya irrigation system and the Rogunskaya GES. . .we have named only a few of the facilities from the extensive capital construction program planned for the 11th Five-Year Plan by the 26th Party Congress. This program is directed at the further build-up of the nation's production potential and the creation of the material and technical base of communism.

Nuclear electric power stations occupy a special place in the capital construction plan. The construction of 12 AES's is planned in just the European area of the USSR. Bringing the power units in them on line on time depends to a great extent on how well material resource supply is organized for the construction projects. This is why the construction of nuclear power facilities is a test not only for builders, but also workers of USSR Gossnab organs, production associations and enterprises which supply the requisite materials, machines and equipment to them.

The editorial staff will systematically publish materials on the status of material and technical supply for nuclear power engineering facilities under construction for the purpose of rendering assistance to the main supply and marketing administrations and the territorial organs of the USSR Gossnab. We will familiarize readers with the national economic significance of these construction projects and talk about the labor collectives for whom the timely meeting of orders of AES builders has become an immutable law. The editorial staff will also subject to justified criticism those who disrupt deliveries and hold up the timely bringing on line of important facilities.

Our discussion today is about what the USSR Gossnab is doing to provide an uninterrupted supply of material and technical resources for the construction of nuclear electric power stations.

General secretary of the CPSU Central Committee, Comrade L.I. Brezhnev noted in the accounting report to the CPSU Central Committee 26th Party Congress that heavy industry has enjoyed a 70 year period of stable growth. The production of generation facilities has grown on the same scale as over the previous 20 years. Electrical power generation has doubled as compared to the 1960's. Custom-made hydroelectric power plants have been placed in service at the Sayano-Shushenskaya, Ust'-Ilimskaya, Nurekskaya, Ingurskaya, Dneprovskaya, Nizhnekamskaya and other hydroelectric power stations. The construction of the largest thermal electric power stations, the Zaporozhskaya and Uglegorskaya, has been completed.

Nuclear power engineering has grown at an especially fast pace. New power units have gone on line at the Leningradskaya, Chernobyl'skaya, Kurskaya, Beloyarskaya, Armyanskaya and Bilibinskaya nuclear electric power stations. Nuclear power engineering has received modern high capacity equipment: "Atommash", the chief supplier of nuclear steam generating installations, has started to supply products.

An even more immense nuclear electric power station construction program is ahead for power engineering in the 11th Five-Year Plan. It is sufficient to say that the overall capacity of the power units which will be brought on line will amount to 24 to 25 million kilowatts. Even in this year, nuclear reactors with capacities of 440,000 kilowatts each at the Kol'skaya and Rovenskaya AES's should start operation as well as reactors of one million kilowatts each at the Chernobyl'skaya, Yuzhno-Ukrainskaya, Smolenskaya and Kurskaya stations. A power generation unit of the same capacity will also go on line at the Kalininskaya nuclear electric power station in 1982.

The construction and installation work at the Balakovskaya, Zaporozhskaya, Rostovskaya and Krymskaya AES's is developing at a fast pace. The builders of the Tatarsk giant, as well as the nuclear heat supply station in Voronezh and the Odesskaya nuclear central heat and electric power station have also arrived for the preparatory work cycle. It is planned that more than half of all the construction and installation work will be done at six nuclear electric power stations in the Ukrainian SSR. It is planned that the first capacities will go on line at each of them.

A large quantity of equipment, various materials and hardware has been concentrated at the AES construction sites. All possible kinds of cargos from all ends of the Soviet Union are being sent to them in an unending flow. The entire nation is participating in the construction of the nuclear electric power station. Thus, ferrous rolled metals are being supplied by more than 30 metallurgical plants. Among them are such extremely large enterprises as the Krivorozhskiy, Yenakiyevskiy, Makeyevskiy, Kommunarskiy, Dneprovskiy metallurgical plant imeni Dzerzhinskiy and others. Pipes of various diameters are shipped out by 26 enterprises, including the Pervoural'skiy pipe plant, which is widely known in the nation. Wood materials are going to the construction projects from numerous forest product facilities and 15 wood processing plants of the USSR Ministry of Power Engineering and Electrification. More than a thousand enterprises are supplying construction and production process equipment.

Undre these circumstances, large and difficult tasks confront both the central and the territorial organs of the USSR Gossnab, as well as the union level main supply and marketing administration and the union level main administrations for assuring the delivery of complete equipment sets. In order to provide the construction of nuclear electric power stations with everything necessary in a clear-cut and uninterrupted manner, it is necessary to constantly keep under supervision and coordinate the actions of hundreds and hundreds of enterprises of various ministries and departments. It should be noted that many supply enterprises correctly understand the great importance of nuclear power engineering in the development of the national economy and are striving to make all deliveries within the established timeframe. Among the collectives directly engaged in handling orders for construction projects, a movement has been developed under the slogan: "A Green Light for Nuclear Power Engineering!". The Novovoronezh plant for steel reinforced concrete products and structures, the Nizhne-Tagil'sk metallurgical combines, the metallurgical plant imeni Petrovsk and many others are shipping products out ahead of schedule.

Along with this, there are enterprises which disrupt the delivery plan. For example, in the first quarter of this year, the Nikopol'skiy Southern Pipe Plant imeni the 50th Anniversary of the Great October Socialist Revolution was supposed to deliver 256 tons of rolled stainless steel pipes 219 millimeters in diameter and 277 tons with a diameter of 325 millimeters. The AES builders though actually received only slightly more than 79 tons of pipes of the latter diameter from the enterprise. The Chelyabinsk metallurgical plant failed to deliver more than 200 tons of stainless steel over the first two months.

The main territorial administrations and union level main supply and marketing administrations are implementing all measures to eliminate delivery disruptions and provide for continuous material and technical supply for the construction of nuclear electric power stations. The execution of the delivery plan is under the constant supervision of the USSR Gossnab. The questions which require urgent consideration are discussed here at weekly operational conferences, in which the following participate: representatives of the All-Union "Soyuzatomenergostroy" association of the USSR Ministry of Energy, the directors of the Administration to provide material resources for capital construction of the USSR Gossnab as well as representatives of the union level main supply and marketing administration. Specific measures are planned for each problem and the persons responsible for their execution are designated. They report at subsequent conferences what has been done to implement the adopted resolutions.

For example, a difficult situation arose at the beginning of the year with deliveries of stainless, hot rolled sheet steel. The Chelyabinsk metallurgical plant provided almost nothing of the 200 plus tons stipulated for the first quarter fund in January and in February. It did not do well with the other kinds of rolled metal either. The overall indebtedness was about 600 tons by the middle of March.

The situation which was created become the topic a discussion at an operational conference in the USSR Gossnab. Based on its recommendation, a representative of Soyuzglavmetall visited the enterprise. Along with the plant managers, he

analyzed the status of the production of the rolled metal shapes needed for the AES builders. Reserves were sought out to increase their production and to ship them on time. As a result of the steps which were taken, the Chelyabinsk metallurgists shipped almost 500 tons of product to the power builders by the end of the quarter. The remaining indebtedness was retired in April.

The situation with deliveries of 219 and 325 millimeter diameter stainless steel pipes was taken up at one of the conferences, where this pipe, as was note above, was to have been manufactured by the Nikopol'skiy Southern Pipe Plant. The directors of the union level main pipe marketing and supply administration received the assignment of studying the status of pipe production in conjunction with the plant workers and seeking out the possibility of eliminating the indebtedness in the shortest possible timeframe. This yielded good results. The first batch of pipes was shipped as early as the first days in April for AES construction, and 10 days later, the plant had fully met the plan for first quarter deliveries.

Those questions which arise in the course of electrical power station construction are also resolved at operational conferences in the USSR Gossnab. For example, questions of supplemental funds for some materials, more efficient ties to suppliers and the redistribution of resource surpluses are treated.

As experience shows, the monitoring of the deliveries which is being carried out by the USSR Gossnab is bearing positive results. At the present time, the "Soyuzatomenergostroy" association is fully provided with rolled metal. The supply of sheet steel, pipes, stainless steel wire, chemical industry products and other materials has improved a great deal.

Of course, not everything has yet been done to see that the construction projects do not experience a need for anything. And now at times various difficulties arise. For this reason, USSR Gossnab, its organs at the sites and the union level main marketing and supply administration will in the future also keep up special monitoring of deliveries for nuclear electric power station construction projects. We feel that the duty of supply workers is to set up a cleanly functioning, uninterrupted conveyor between the associations, enterprises of various ministries and departments and the AES construction sites.

The USSR Gosplan and USSR Gossnab in the 1981 plan have provided for the USSR Ministry of Energy to deliver as early as the first half-year ferrous metals, cement and commercial timber to the accounting of the ministry funds for the second half of the year for the purpose of providing for the advanced development of nuclear power engineering and creating the requisite stockpile of semi-finished products in nuclear electric power station construction. It can be said today that this problem is being solved successfully. Thousands of tons of various materials and equipment have been received for the construction project account for the second half-year.

Just as in any business, success in supplying new nuclear construction starts is assured by the people. The implementation of the measures which have been worked out depends a great deal on them. "At the center and on the sites, in all sections

and in all units of the national economy," underscored Comrade L.I. Brezhnev in the accounting report to the 26th Party Congress," the understanding of the problems facing us should increase, and the existing possibilities should be better ascertained and utilized." It is specifically from these viewpoints that we are obligated to approach the resolution of the problems of uninterrupted supply of material resources to AES construction projects.

8225
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BSSR COUNCIL OF MINISTERS MEETING ON WINTER FUEL

Minsk SOVETSKAYA BELORUSSIYA in Russian 26 Aug 81 p 3

[Article: "Make More Efficient Use of Fuel and Energy Resources"]

[Text] Questions of the preparation of electric power stations, industrial, municipal and domestic enterprises of the republic for winter operation and increasing the efficiency of fuel and energy resource utilization were considered at a meeting of the BSSR Council of Ministers chaired by first deputy chairman of the BSSR Council of Ministers, V.F. Mitskevich, this past August 24th.

It was noted at the meeting that in the past fall and winter season, the Belorussian power system operated basically in a stable manner. The timely preparation of the electric power stations made it possible for the Main Belorussian Power Administration to provide the economy and the populace with heat and power with minimal delays. This was also aided by the fact that the directors of the majority of ministries, departments, enterprises and organizations approached the execution of the tasks set by the party and government with the requisite responsibility.

Having utilized the accumulated experience, numerous ministries, departments and collectives of enterprises devoted a timely concern to the creation of the requisite stocks of fuel for the present winter, the repair of major power equipment, electrical and heating networks, hot water boilers and other power engineering facilities. In conjunction with the BSSR Ministry of the Municipal Economy, as well as the oblast, municipal and regional soviets of people's deputies, considerable work was done by these ministries, departments and collectives to prepare domestic boiler facilities, central heating units and power networks, gas facilities and personnel, as well as to provide fuel to children's institutions and hospitals.

Along with this, there are also serious deficiencies in the preparation for winter. An analysis of the situations on-site shows that the work of many ministries, departments and enterprises of the republic related to providing energy to the economy and the populace, as well as reinforcing the conditions for saving fuel and energy resources, still does not fully meet the requirements of the day.

There are a number of substantial deficiencies in the storage and utilization of petroleum products; work on monitoring the consumption of energy and fuel in a number of regions has weakened. Energy saving production processes are used far from everywhere and educational work among the populace is being inadequately managed.

Organizations which permitted a lag in bringing repaired power facilities on line were criticized at the conference.

The requisite stocks of coal, furnace fuel oil and liquified gas should be created by the start of the fall and winter 1981-82 season. The plan for deliveries of all kinds of fuel and petroleum products to consumers should be fully met and on time. Questions of providing fuel to the populace should also be attentively considered. Just as in years past, special accounting must be implemented to see that invalids, the families of casualties and participants in the Great Fatherland War as well as veterans of labor, pensioners and the single elderly receive coal, peat briquettes and firewood.

Special attention was devoted at the conference to questions of strengthening thrift and savings in the consumption of heat and energy, improving the standards setting for their consumption and drawing on secondary energy resources for production.

The major directions for this work should become: the introduction of equipment and technological processes which provide for a high technical level of production with minimal energy resource expenditures; refinement of planning and the organization of efforts to apply scientically substantiated fuel consumption norms; wide-scale utilization of modern instruments to account for and monitor the expenditure of energy; and the practical introduction of the achievements of scientific and engineering progress.

The necessity of increasing the work activity of peoples control groups and commissions to monitor energy resource consumption was underscored. The development in the cities of the republic of a centralized heat supply from central heat and electric power stations with a simultaneous reduction in the number of poor efficiency small and obsolete boiler plants should also come within the scope of their activity.

Specific measures are planned to provide for timely and uninterrupted fuel shipments, fuel loading and unloading as well as increasing all work activity directed towards saving fuel and energy resources, monitoring their consumption and preparing equipment and transport vehicles for the winter. The attention of the workers of ministries, departments, soviet and management organizations was directed towards the necessity of comprehensively resolving the problems considered here based on the achievements of scientific and engineering progress. In this regard, means of mass information should more widely publicize the entire course of the preparations for winter and also publicize the experience of the better collectives.

The chairman of the BSSR Peoples Control Committee, M.I. Lagir, participated in the work of the conference.

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ELECTRIC POWER

MORE ON RURAL ELECTRIFICATION DIFFICULTIES

Moscow PRAVDA in Russian 31 Aug 81 p 3

[Article by A. Minayev: "So That the Lights Don't Go Out - Returning to What Has Been Printed"]

[Text] The correspondent's news article "Power Supply and Losses" published in PRAVDA for January 23rd, 1981, generated no small amount of reader interest. We will briefly recall that the issue in it concerned the large irrecoverable losses of milk, meat and other animal husbandry products which occur in the kolkhozes and sovkhozes of the Kurganskaya oblast because of the frequent so-called planned, and especially accidental outages of electrical power for farms, poultry plants, animal husbandry complexes and feed shops. The article noted the neglect of power facility management in the oblast and the multiplicity of power services subordinate to different departments which have been created there. Serious complaints were directed against the USSR Ministry of Power Engineering and Electrification, and local party and soviet organs.

The editorial staff received a large number of letters following the publication of this material. Unfortunately, one could judge from them that many kolkhozes and sovkhozes are still unreliably supplied with electrical power. There are various reasons for this.

"There are 11 workers in all in our section," writes senior foreman of the Talitskiy regional electric power networks of "Sverdlovenergo", V. Martynov, "and we service 7 kolkhozes and sovkhozes, located in 32 villages. There are 120 transformer substations here and they are connected by 400 kilometers of line. The load on each of us is excessive. And on top this there are snowfalls, severe freezes and ice build-up, as well as transport vehicles running into poles - every kind of unforeseen circumstance. This causes additional outages. But the entire issue is really how quickly we can eliminate the defects and establish normal operation of the farms, complexes, etc. Maximum operational timeliness is needed! And in reality? We have two aged "GAZ-51" and "GAZ-63" motor vehicles. They are worn out to the limit, and almost no spare parts are produced for them. So the vehicles spend more time in repair than on the road. And the workers must be transported 30 to 50 kilometers. There are no reliable walkie-talkies or drilling rigs and the telephone service is poor."

"Such is the 'equipping' of the repair workers who are rightfully on the same footing as ambulance services. Just try to get there quickly and eliminate an outage if the electrical power transmission lines run through fields and bogs. Is it really impossible to provide rural power workers with reliable equipment, all-terrain vehicles?"

The author is in agreement with the newspaper: there are too many organizations managing electrical power. "We have in the region," he writes, "so many that you can get lost in them. Why not bring them all together under one roof? And also implement brigade subcontracting. Things will go better. And now we are strangers to each other. The USSR Ministry of Energy, to which we are subordinate, has not set up a specialized repair service for equipment, or the supply of spare parts. And the ministry is generally still far away from the needs of its own rural organizations. It does not act on claims and requests, and forwards them to the provinces. And what is the use of this? Even in the kolkhoz and sovkhoz repair shops, the repair enterprises of Goskomsel'khoztekhnika do not set about to repair machinery for us."

As we see, the issue concerns the same deficiencies in rural power engineering as were noted in the Kurganskaya oblast.

"The opinion has arisen among us," remarks the chief of the Novomoskovsk electrical distribution networks of 'Tulenergo', V. Polyakov, "That rural electrification remains in the position of a forgotten village in the Ministry of Energy. Our enterprises are being done out of their fair share of equipment, personnel and material resources. There are not enough living accomodations. And if you consider the traveling nature of our work, the extreme lack of mechanisms and transport vehicles, then the high turnover of personnel becomes understandable. Over the past five-year plan, the number of our personnel has been reduced by 64 persons, by one-third, while the length of the high voltage lines has increased by 1,300 kilometers and 290 new substations have been built. Just who is to service all of this?"

Other readers also sketch about the same picture in their responses. The following question becomes justified: why on the farms are the transport vehicles and machinery renewed annually, while the workers of regional electric power networks are given only obsolete or altogether written-off equipment? Are rural power workers not to be taken care of as well as agricultural and animal husbandry workers are?

In a number of letters, the issue involves increasing responsibility for a reliable power supply to agricultural facilities not only on the part of power workers, but also farm managers. Readers N. Loshchilin from Beloomut and N. Gusev, N. Barsukov and I. Zakharov from Moscow recall: During the construction of agricultural facilities such as the internal electric power networks and transformer substations, the customers are the kolkhozes and the sovkhozes. And it is their legal right to strictly monitor the observance of the project plans. But the trouble is that here the supervision has weakened. Worst of all, simplification of the project plans is permitted and more than half of the power facilities in the country are turned over for operation without automatic equipment and a back-up power supply.

Readers unanimously say that there should be one electrical power supply manager out in the country. The fact is that there is not sufficient machinery, materials,

equipment or personnel and at the same time, they are allowed to be scattered, siphoned off for petty services, utilized in efficiently and irresponsibly. Thus, in almost every region of the Kurganskaya, Yaroslavskaya, Tul'skaya, Gor'kovskaya, Sverdlovskaya, Vladimirskaya, Moskovskaya and many other oblasts, the countryside is serviced with electrical power by four to six organizations. No more than 70 to 100 people work in each of them, but everywhere there are bookkeepers, economic and support services functioning, and there are meter readers, controllers, brigade foremen and workers, as well as chiefs of the sections and subdivisions. The maintenance men and electricians who should immediately eliminate outages and breakdowns worry about the operational reliability of facilities a great deal less than they do about the supervisors!

"Is is really normal," write readers from Pereslavskiy rayon of the Yaroslavskaya oblast, "That the electrical power supply for our rural consumers is taken over by a section of high voltage lines, a group of substations, a section of "Energosbyt", the "Sel'khozenergo" association, as well as regional and municipal electrical network services? It turns out that too many cooks spoil the broth. In the past year, the kolkhozes, sovkhozes and other facilities of the region were disconnected from power 40 times."

The issur is thus: it is time to establish order in the work of rural power supply and operating organizations on a national scale. The Ministry of Energy should take the initiative itself, in the opinion of the authors of the letter. However, ther resolution of many issues also depends on the Ministry of Agriculture, Goskomsel'khoztekhnika, municipal and other departments. It is clear that the local party and soviet organs as well as the kolkhozes and sovkhozes themselves cannot be left out.

Not all of the problems are amenable to rapid solution, but many of them are, and their is no basis for putting them off. Shall we say whether it is possible to accelerate the resolution of the question of coordinating the efforts of the various servicing organizations for power engineers? The readers believe that it is possible. The workers of the USSR Ministry of Energy, where the newspaper article has been discussed, do not deny this. They are also inclined to this same opinion in the Kurgan obkom of the party. But half a year has already passed and nothing has changed in this same Kurganskaya oblast. There is still the same lack of coordination in the work of rural power engineers and the same defeciencies. One must not be surprised that the number of outages and breakdowns in the kolkhozes and sovkhozes has even increased this year. The losses of agricultural products have also increased correspondingly.

Breakdowns and planned outages are unavoidable in the opinion of the Leningrad scientists and instructors at the agricultural institute, Ye. Ryvkin, N. Shcherbinin and candidate of the engineering sciences from Gor'kiy, A. Chachkhiani and other specialists. But if they are eliminated after 10 to 30 minutes, this is not so dangerous. However, if, for example, the milking of the cows is delayed for four hours or missed altogether, then this is real trouble. The productivity of the cows falls off sharply and at times they must be removed from the milking herd.

Another problem which also can and must be solved, without procrastinating, is the setting up of independent back-up automated deisel generators, small mobile electric power stations as well as the use of tractor and motor vehicle engines and other plants on the farms. Incidentally, the Leningrad workers have in the past year developed recommendations to improve the power supply reliability for farms and complexes in this way. The application of these recommendations to the farms of the Leningradskaya oblast is yielding good results: production losses have been sharply curtailed. However, when a conversation about this experience gets started in the Kurgan kolkhozes and sovkhozes, they ask: "Where do you get the independent emergency power supply sources? Industry has stopped producing them altogether..."

Is this so? Not completely. The "Sel'khozenergoproyekt" Institute long ago developed standard project plans for diesel electric power stations of various capacities, as well as autonomous power sources. The expenses for their maintenance are recovered in a few months - so this normalizes the production process on the farms and the consequences of a breakdown are almost not reflected in the animals. Industry is producing such power sources, but as is generally apparent, few of them.

And here it is worthwhile to ask the managers of the farms themselves: where did the independent diesel generators and mobile electric power stations acquired earlier end up? For each farm did have one and they were connected in urgent cases. By the way, it was ascertained at a meeting of the Bureau of the Kurgan party obkom where the "power supply and losses" news report was discussed that the oblast agricultural administration and regional agricultural administration did not take steps to maintain the diesel electric plants in the kolkhozes and sovkhozes. Previously, there were 628 of them, and now only 139 units remained, and even some of those are not complete sets.

In reporting about similar facts from many of the nation's oblasts, readers justifiedly evaluate this as scandalous mismanagement. It is clear that such an attitude towards the matter must rapidly come to an end. Independent electric power sources should be in constant readiness everywhere on the farms, as is done, for example, in the majority of the farms in Bashkiria, the Krasnodar kray and Podmoskov'ye.

The CPSU Central Committee and USSR Council of Ministers adopted the decree "On Measures to Further Expand Agricultural Electrification" two and a half years ago. It establishes the obligation of strengthening the responsibility of not just the power supplying organizations of the USSR Ministry of Energy for Unplanned and Emergency Disconnections of Rural Consummers, but also party organs and farm managers and targets the improvement of labor organization in power engineering as well as economy and thrift.

But then there is the conversation with the First Deputy Minister of Power Engineering and Electrication of the USSR, Ye. Borisov and the chief of the agricultural electrification administration of the Ministry of Energy, A. Orekhov, and they state with a single voice: the decree is being unsatisfactorily implemented. The USSR Gosplan and Gossnab allocate considerably fewer material and technical resources than are planned. For this reason, more than 70,000 kilometers of power

transmission lines and numerous transformer substations were not placed in service in the 10th Five-Year Plan. Some 15 to 30 percent of the requirements for repair and operational needs of cable, wiring, electrical equipment, timber, cement and other materials are given. Capital investments in the 11th Five-Year Plan are also allocated at a level less than planned.

The electrification of agriculture is having an increasing impact on the performance of the assignments of the foodstuffs program. And everything must be done to see that its base, its material support meets the requirements placed on agricultural production.

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KADOMTSEV INTERVIEW ON INTOR FUSION REACTOR

Moscow IZVESTIYA in Russian 5 Aug 81 p 3

[Interview with academician B. Kadomtsev by B. Konovalov, date and place not specified: "The 'INTOR' International Thermonuclear Reactor"]

> [Text] Preliminary design work on an international thermonuclear reactor has been completed through the joint efforts of specialists of the USSR, U.S., Japan and "Euroatom". INTOR can become the starting point for the construction of an experimental thermonuclear electric power station.

In the accounting report which Leonid Il'ich Brezhev made to the 26th CPSU Congress, it is stated: ". . .life necessitates the continuation of the search for fundamentally new sources of energy, including the creation of the basis for thermonuclear power engineering." Energy is the base of all bases for the increasingly complex economy and the foundation on which the entire building of modern economics is supported and will grow. For this reason, the party and the state attribute priority importance to building up power capacities. The first nuclear electric power station was built in our country, and now nuclear power engineering is developing successfully. The so-called TOKAMAK's which were born in the Soviet Union are toroidal installations where the "fuel" is heated by an electrical field and contained in a chamber by a powerful magnetic field; in the general opinion of most of the world's authoritative experts, these are the most promising and the shortest path to the construction of thermonuclear electric power stations, which will forever eliminate the threat of an energy famine on our planet. True to its policy of peace and cooperation in the resolution of the global problems confronting mankind, the Soviet Union proposed combining the efforts of various nations of the world in thermonuclear research. This proposal received a wide and favorable response. The work of experts on the first stage of the design of an international TOKAMAK, a reactor which is called INTOR for short, was recently completed in Vienna. Your correspondent asked the head of the Soviet working group of experts, academician B. Kadomtsev to answer a number of questions and tell IZVESTIYA readers about the state of the art in thermonuclear research and the prospects which are opening up.

[Question] Boris Borisovich, first of all tell something about the history of the INTOR project and its first steps.

[Answer] In 1978, the head of the Soviet thermonuclear program, academician Yevgeniy Pavlovich Velikhov, on the instructions of the USSR government, proposed to the International Atomic Energy Agency (IAEA) that nations with a highly developed technology, engaged in thermonuclear research, join forces and jointly design, construct and then conduct experiments with and develop the technology for the construction of a thermonuclear electric power station using a large international facility. An international conference of the International Council of the IAEA on thermonuclear fusion was held, which included the directors of the thermonuclear programs of large nations. Following discussions, the Soviet proposal was adopted as regards the planning. And at the end of 1978, the first meeting of the heads of the future working committee on INTOR was held, at which the representatives of the USSR, U.S., Japan and "Euratom" - the organization of Western European nations - worked out the program, strategy and tactics for the upcoming work.

The decision was made to get together in Vienna at IAEA headquarters two to three times a month in a group of 20 to 30 experts with 4 to 7 persons from each side. During such sessions, various problems in the planned program were discussed, proposals were critically analyzed and all of the groups received buildings for housing the national staff workers of the participating nations. Thus, the project moved ahead step by step, though at a very fast pace.

The preliminary planning stage was convered from the beginning of 1979 through July of 1981, where this stage consisted of two phases. The result of the first stage was a general volume of approximately 900 typewritten pages, where all of the existing scientific and technical data which had to be on hand to start the design of the reactor were described and analyzed. The analysis demonstrated that the planning could continue during the design work because the knowledge deficit would be made up in the course of the work.

The best scientific and engineering solutions, in the opinion of the experts, for the future INTOR were collected in a second volume at the conclusion of the second phase. There, the major goals, tasks of the facility, its parameters and design solutions are set forth, and the research program which is to be implemented with it is described.

[Question] How does INTOR appear today? How does it look as compared to various national thermonuclear facilities in existence and under construction?

[Answer] According to existing theoretical concepts, the parameters necessary to realize a self-sustaining thermonuclear reaction can be achieved with TOKAMAK's by means of increasing the size of the installations. The existing facilities of the Soviet TOKAMAK-10 and TOKAMAK-7 type and similar foreign ones are essentially plasma test stands on which scientific research is performed and the hardware is developed, as well as to some extent the materials needed for future thermonuclear reactors. The plasma volume heated by various techniques in this generation of installations amounts to a few cubic meters. In the four large TOKAMAK facilities of the next generation, which are now under construction, the working plasma volume will be tens of cubic meters, but this is still several times smaller than needed for a thermonuclear station. This condition will be met with INTOR.

The volume of the plasma doughnut torus will be more than 200 cubic meters. Its outside radius will be 5.2 m and the small radius 1.2 m. The current heating the

plasma will reach 6.2 million amperes. The plasma will be contained in the working chamber by a powerful magnetic field of 55 kilogauss. A thermonuclear reaction will be periodically initiated in the deuterium-tritium plasma using various heating sources, and then the reaction will be self-sustaining for 200 seconds. The thermal power developed in the reactor will be 620 megawatts.

In this case, the walls of the unit will operate under practically the same conditions as the reactor of a future thermonuclear electric power station; INTOR should become the last intermediate step on the road to its construction.

[Question] But this means that the engineering designs of the future thermonuclear electric power station should also be worked out on INTOR?

[Answer] Of course. All of the major subsystems of a future nuclear electric power station should undergo approval testing on INTOR. For example, this reactor should demonstrate the possibility of generating electrical power. In terms of power capacity, it should run to around 10 megawatts - approximately twice that which the first nuclear power station in the world at Obninsk generated. For this purpose, one of the toroidal wall sections of INTOR will be like a cut-out, and a special module will be located at this point. This module will receive a power neutron flux on the plasma side, while the heat which is produced with the moderation of the neutrons will go for steam generation, i.e., it will take the form of a thermonuclear boiler. The steam will turn a turbine, and thereafter everything is in accordance with the traditional scheme for power generation.

A provision has been made in INTOR for working out the technology for breeding a valuable component of the thermonuclear fuel: tritium. Deuterium is comparatively inexpensive and it is quite simple to set up the mass production of it from sea water, while tritium is costly. And one must economize with it.

A portion of the internal reactor shell in INTOR will be filled with small spheres of lithium silicate. With the action of the neutron flux, the lithium will fission and form tritium. Then using helium which is pumped through the system, the tritium will be brought out into a special tank. Some 60 percent tritium will be produced in INTOR - though the reactor is nonetheless experimental and the majority of the surface should be made available for experiments. And in the future, the tritium breeding will be total. Thermonuclear electric power stations will have to be charged with tritium only at the outset, and then the reactor will feed itself.

[Question] How will the INTOR project develop further?

[Answer] The time has now arrived when it is necessary to look around for a while before making firm decisions concerning structural design details and the development of the project. In the upcoming year and a half, on one hand, the major scientific and engineering solutions chosen for INTOR should be optimized. The project is complex, expensive and here one must really measure and measure again. On the other hand, it is necessary during this time for each party participating in the project to make a detailed analysis of their capabilities and resources at the state level so as to choose the future path for the development of thermonuclear research.

In scientific circles, which are governed primarily by common sense and the principle of reason, the concept of INTOR enjoys popularity and support. Thermonuclear technology is quite complex and it requires considerable time and serious capital for its development. The cost of the facilities increases, roughly speaking, in proportion to the volume of the plasma chamber. And as early as the INTOR stage, each of the nations should really think things through before deciding to go ahead alone. For it must remembered that INTOR is still not a thermonuclear electric power station, but only one of the possible paths to it. INTOR is a scientific research facility, which should prove the possibility of building a thermonuclear electric power station. Here, just as in any scientific study, there is a certain degree of risk. And it is reasonable to share it among the partners. It is not rivalry, but rather cooperation and the combining of forces which is advantageous in seeing through such large scale projects.

[Question] Can it be said that even in the initial stage, work on INTOR has been of definite benefit to the project participants and has advanced the entire problem of thermonuclear research?

[Answer] Absolutely. Even in the first phase of the project, gaps were found in our knowledge which had to be filled to design a thermonuclear power station, and those questions and problems were indicated where physicists and engineers must concentrate their efforts or the pace of research must be accelerated. And it is well known from the history of science that a clear-cut formulation of scientific tasks and goals in and of itself has always promoted the more rapid finding of the answers.

In the subsequent phase, all of the INTOR participating nations had the possibility of presenting a wide selection of possible engineering designs to a court of the most highly qualified experts. This made it possible to analyze an enormous number of variants within very short timeframes and select the most efficient solution. Here the participants in the project likewise gained speed in moving the project forward and received a unique international guarantee for the high quality of the selected variants. Work is now continuing in this area, as I have stated, and will undoubtedly benefit all participants in the thermonuclear research.

[Question] And how is participation in the INTOR project tied to the development of the national TOKAMAK program in our country? Are socialist nations being drawn into participating in thermonuclear research?

[Answer] INTOR is a very large and complex facility. Its planning and the preparation for the construction will take a long time (by the way, at the present time the USSR, Austria and Finland have expressed a desire to locate INTOR on their territory). According to the most optimistic forecasts, the construction will hardly begin earlier than 1985 and will require seven years. And concurrently with this, a large program of scientific research should be undertaken to substantiate the project plan for the reactor.

Right now we are conducting research with the TOKAMAK-10 and TOKAMAK-7 facilities, which are drawing upon scientists from socialist countries also. The TOKAMAK-15 is being built, which will become our main research reactor in the 11th Five-Year Plan. All of the modern techniques for heating and containing the plasma will be employed

in it. The large radius of the reactor will be 2.4 meters, while the small radius will be 0.7 m. We will be able to raise the plasma temperature up to 70 - 100 million degrees. The plasma density will also be rather high. The TOKAMAK-15 should become the penultimate intermediate step on the road to creating a thermonuclear electric power station. At this stage, we will make enormously greater use of the thermonuclear research of CEMA member nations. And one can also note the well known internationalization of our national program.

Even before INTOR, preliminary work was underway in the Soviet Union on the development of the TOKAMAK-20 facility, which in terms of its parameters and function is similar to INTOR. We have now naturally shifted shifted this work over to the INTOR track, so as not to expend personnel and funds in vain. If INTOR is realized, then our next national step can be changed. And if the necessity arises, then at any point in time we are able to rapidly develop the project further, utilizing the results already achieved. But, of course, it is more reasonable to cooperate in thermonuclear research.

The Soviet Union has always taken a position of cooperation. It is appropriate to recall that academician I.V. Kurchatov in his famous lecture at the English nuclear center at Harwell, on the instructions of the Soviet Government, unilaterally lifted the curtain of secrecy on thermonuclear research. This opened up a new era in solving the problem of controlled thermonuclear fusion. And our country is now consistently coming out for cooperation in large scale scientific research.

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REVIEW OF ENERGY NEEDS IN KAZAKH SSR

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 26 Aug 81 p 2

[Article by A. Kaliyev, deputy chief of the Department of Power Engineering of the Kazakhskaya SSR Gosplan: "The Republic's Power Engineering"]

[Text] The present five-year plan will become a new step in the development of the nation's power engineering. In 1985, it is planned that 1,550 - 1,600 billion kilowatt-hours of electric power will be generated, a figure which is much greater that the present. The contribution of Kazakhstan electric power stations to this increase will be considerable.

The republic's power engineers laid a solid foundation in the past five-year plan for the implementation of the magnificent plans. They have set about the formation of the Ekibastuz fuel and energy complex, the scale of the work on which will put it on a par with such leading construction projects in the nation as the BAM [Baykal - Amur Trunk Line] and KATEK [Kansko-Achinsk Fuel and Energy Complex]. Here, three units with an overall capacity of one and a half million kilowatts in the first station have been started and construction of the second and the Yuzhno-Kazakhstanskaya GRES has been stepped up. The third stage of the Irtysh series has been constructed at an accelerated pace: the Shul'binskaya hydroelectric power station. The Dzhambulskaya GRES and the central heat and electric power stations in Pavlodar and Karaganda have been brought up to the marker called for in the project plan. The building-up of capacities and the modernization of existing stations will permit an increase in electrical power generation by a factor of 1.7.

The construction of the trunk and distribution power grids as well as transformer substations went forward concurrently. The 500 kilovolt Yermak--Ekibastuz--Temirtau, Yermak--Rubtsovsk--Ust'-Kamenogorsk, Tselinograd--Yesil'--Sarbay and Omsk--Petropavlovsk high voltage lines were placed in service, as well as the 220 kilovolt Kinel'--Ural'sk and Frunze--Alma-Ata power transmission lines which significantly improved the reliability of the power supply to the Kazakhstan economy. The network of rural transmission lines was expanded, something which made it possible to finish taking in all of the farm centers of the kolkhozes and sovkhozes with a central electric power supply. In terms of electric power consumption by agriculture, the republic has gained third place among the union republics. Heating supply has also undergone a further development. The capacity of the installations increased by more than 43 percent, while the length of the heating mains exceeded 940 kilometers.

Placing more of the Ekibastuz fuel and energy complex in production is called for in the 11th Five-Year Plan in the republic, as well as the development of centralization of the heat supply from large sources and improving the reliability and stability of the power supply to the economy. It is planned that electric power generation will be brought up to 90 to 95 billion kilowatt-hours. It is planned that more than three-fourths of the energy produced by thermal power stations will be generated using Ekibastuz coal.

The major feature of the development of Kazakhstan power engineering in the 1980's will become the use of increasingly higher capacity power units and the construction of large electric power stations. The Ekibastuzskaya GRES-1 and the extremely large power stations in Alma-Ata and Tselinograd will be brought up to the design capacity while the first units of the GRES-2 will go on line.

The creation of new power centers is attracting the interest of numerous related sectors of the national economy. For this reason, an entire complex of problems is being solved directly during their construction. A typical example of this is the Shul'binskaya GES. Even its first stage, which will go on line in the present five-year plan, will not just supplement the power potential of the republic. The water reservoir being built here at the same time will make it possible to irrigate hundreds of thousands of hectares of meadows, will fundamentally improve navigation conditions on the Irtysh and will have a positive impact on the development of the fishing industry.

Kazakhstan will be transformed during this five-year plan from an electrical power consumer to a power exporter to the nation's industrial regions. The power will flow through two custom-made power bridges: the Ekisbastuz--Ural at 1,150 kilovolts AC and the Ekibastuz-Center DC line at 1,500 kilovolts. The first of these "rays" will improve the power supply to the north of the republic. The industrial current will be fed to sovkhozes and kolkhozes in the virgin lands through custom-made step-down substations as well as to the Kustanaya mines and combines which provide iron ore to the Kazakhstanskaya Magnitka, Ural and "Zapsib" ["Western Siberia"].

The Agadyr'--Karazhal--Dzhezkazgan power line will provide power to the rapidly developing Dzhezkazgan industrial region. And another high capacity line, the Agadyr'--Yuzhno-Kazakhstanskaya GRES--Alma-Ata, will tie the northern and southern regions of the republic into a single power grid for Kazakhstan. In all, about 20,000 kilometers of power transmission lines at 35 kilovolts and higher will have been constructed in the 10th Five-Year Plan. Of them, more than 13,000 kilometers are for the needs of agriculture.

One of the major problems in the further development of the sector is that of improving the use of fuel and energy resources. Considerable work has been done in this area. Because of the introduction of operational mode charts for boiler plants and the refinement of their design, the coal and fuel oil consumption for the generation of one kilowatt-hour is continuously declining, something which has already resulted in the savings of hundreds of thousands of tons of fuel. Concurrently, considerable organizational and engineering steps are being taken to reduce power losses in the networks.

The heat supply will be further expanded. Existing central heat and electric power stations are being expanded in Alma-Ata, Karaganda, Pavlodar, Ust'-Kamenogorsk and Gur'yev. Some 19 hot water boilers with an overall capacity of 1,700 gigacalories per hour are being installed in the electric power stations and regional boiler plants. The construction of large regional boiler facilities will begin. The development of a centralized heat supply is being reinforced by the expansion of the mains network. Their length will increase by almost 180 km.

The consistent growth in the sector's economy is insistently dictating the further improvement of the control system as well. In the present five-year plan, the formation of the power generation associations will be completed, something which will reduce the number of links in the system as well as the number of small independent organizations.

Electronics will take on an ever greater role in the resolution of the technical problems of controlling the enormous power system of the republic. An automated dispatcher control system has already been introduced which assures the optimum operational mode of the integrated Northern Kazakhstan grid, and computer centers designed around high speed computers are in operation in the majority of oblasts. By the end of the five-year plan, the second stage of the republic level "Energiya" automated control system will go on line.

Power engineers are confronted with doing no small amount to protect nature also. Some 50 million rubles of capital investments have been allocated to reduce harmful emissions into the atmosphere and improve the scrubbing of exhaust gases and discharge water. Some 475 hectares of present day ash dumps will be recultivated.

The implementation of all of these plans, which follow from the resolutions of the 26th Party Congress will make it possible to provide a reliable power supply to republic's economy and more completely utilize its fuel and energy resources.

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ELECTRIC POWER

USE OF IMPROPER EQUIPMENT NOTED AT TETS

Moscow IZVESTIYA in Russian 12 Aug 81 p 2

[Article by academician S. Kutateladze, coordinator for the power engineering section of the "Sibir'" scientific program, Novosibirsk: "What Does the Habit of Doing Things the Old Way Cost? Progressive Technical Solutions Must Be Employed in the Boilers for High Capacity TETs"]

[Excerpt] It is planned in the main trends for the nation's economic and social development that electric power generation be brought up to 1,550 to 1,600 billion kilowatt hours in 1985. Special significance is attributed to the construction of thermal electric power stations which use inexpensive coals from the extremely large Kansko-Achinsk basin, as well as natural and by-product gas from the deposits of Western Siberia. It must be said that Kansko-Achinsk coal is a far from ideal fuel to burn for power generation. During long term storage and transportation, this coal easily turns to dust and is lost en route; it has a tendency towards spontaneous combustion as well as freezing together under winter conditions. A special feature of such coals is the elevated content of alkali metal oxides, something which leads to great difficulties during combustion.

Based on proposals of the All-Union Heat Engineering Institute and other organizations, a traditional type boiler plant with a capacity of 2,650 tons of steam per hour has been developed by the Podol'sk Machine Building Plant imeni Ordzhonikidze for the Berezovskaya TETs of the Kansko-Achinsk fuel and energy complex. The assembly and construction of this great structure with a height of some 90 meters and its operation will undoubtedly entail the necessity of overcoming considerable difficulties.

Meanwhile, there are progressive engineering designs for boiler plants of a new type. With certain modifications, they can also be used for burning coals. The swirl technique of solid fuel combustion was proposed for the first time in the Soviet Union. Even during the prewar period, it was successfully realized in a swirl combustion furnace for burning cut peat.

In developing the concept of swirl combustion, the Central Turbine and Boiler Institute imeni Polzunov, in conjunction with the Taganrog Boiler Construction Plant "Krasnyy Kotel'shchik" and the All-Union State Institute "Teploelektroproyekt" developed a design for a small boiler with a swirl furnace, suitable for gas--fuel oil and solid fuel.

For six years, two boiler plants of this type have been operating on fuel oil at the Rostovskaya TETs-2. Their low height has opened up fundamentally new possibilities for an economical layout of the station.

When implementing the party directives concerning the power engineering mastery of the fuel resources of Siberia, the introduction of these plants which have undergone sufficient acceptance testing can have a great national economic impact. But despite the fact that there is no doubt of the expediency of manufacturing small boilers at the Taganrog plant, at least for gas and fuel oil, the percentage of them of the overall production is insignificant.

It is difficult to understand why it is proposed that the Surgutskaya TETs which uses gas and has a capacity of 4,800,000 kilowatts with boilers having an output of 2,000 tons of steam per hour be equipped with traditional units, since the utilization of small boilers will make it possible to save thousands of tons of metal in one unit.

Taking into account the readiness of the Taganrog Boiler Construction Plant for the manufacture of the new equipment, it is obviously expedient to provide for the replacement of traditional boilers requiring a high metal use with small boilers in the project plans for the new gas-fuel oil power units which should be brought on line in the current five-year plan.

It is expedient to extend the experiment with the Rostovskaya TETs-2 to the design of the second stage of the station, something which was ordered by a decree of the USSR Ministry of Power Engineering and Electrification in 1972.

It is extraordinarily important to speed up the experimental and design work on new efficient boiler units, which will run on low grade coals. For this reason, it is necessary to accelerate the construction and installation of the experimental unit at the Novosibirskaya TETs-3 and complete the tests of the trial unit at the Nazarovskaya GRES using Berezovskiy coal. Experiments at the electric power stations cited here should answer the question of the possibilities of running these plants on Kansko-Achinsk basin coals.

The work of the Central Boiler and Turbine Institute and the All-Union State Institute "Teploelektroproyekt" shows that in the case of the successful solution of this problem, the realization of the new designs in the construction of heat and electric power stations for the Kansko-Achinsk fuel and energy complex with a capacity of 6,400,000 kilowatts with small boilers as compared to the approved project plan for the Berezovskaya TES-1 will provide a reduction in metal consumption for the production process equipment and the physical structures of the main building by 150,000 tons, while decreasing capital outlays by 125 million rubles.

In our opinion it is desirable to hold an expanded conference of representatives of regional power administrations and boiler plants in Rostov to familiarize them on site with the specific features and operational experience with small boilers.

In addition to the small boiler facilities of the Central Boiler and Turbine Institute, there are two more unique and to a significant extent well worked out

boiler designs, which are of interest to Siberian thermal power engineering. These are the annular furnace boiler of "Sibtekhenergo" and the swirl furnace boiler of Leningrad Polytechnical Institute. It is essential to step up the work on the installation and testing of the experimental models of these boiler plants.

Apparently, the time has come to pose the question of the expanded development of research on classical power engineering, energy technology and coal chemistry, with the development of the appropriate subdivision in the academic institutes.

Some thought must also be given to the training of specialists in this area in the higher educational institutions. Boiler plants today are experiencing a shortfall of engineering personnel. It is expedient to set up departments of boiler making in the higher educational institutes near the boiler plants. The scientific potential of Novosibirsk and Northern Caucasus scientific centers could be properly used for this.

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PROBLEMS AND PROGRESS AT BAYPAZINSKAYA GES CONSTRUCTION START

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 12 Jul 81 p 1

[Article by S. Smirnov, Baypazinskaya GES, Tajik SSR: "The Hour of the Baypaza Has Struck"]

[Text] We are standing on a bridge over the Vakhsh with the deputy chief engineer of the "Nurekgesstroy" construction administration, V. Cheboksarov. The entire construction site can be seen quite well from here. The river here in no way justifies the epithets of "stormy" and "willful" usually applied to it. The steep slopes of the mountains are reflected as if in a mirror in the light blue smooth surface without a single pockmark. But in this quiet flow of the Vaksh, its powerful force is also felt.

The Baypazinskaya GES is as yet not on the map - its construction is planned by the Basic Directions for the nation's development in the 11th Five-Year Plan. An important role is assigned to the hydroelectric power system, though it is small in terms of capacity at 600,000 kilowatts: at the peak period, it will take on part of the load with the Nurekskaya GES. The intermediate water reservoir of the hydraulic system will make it possible to improve the irrigation for hundreds of thousands of hectares of cotton, vineyards, orchards and plowed fields.

A specific feature of the construction project is also the fact that the collective has decided to step up the construction of the hydroelectric power system so as to bring it on line at full power by the end of the current five-year plan. The planned timeframes have been compressed as much as possible and this has governed the entire course of the work which is being managed using the method developed by the Nurek workers. The continuity with everything good which was achieved in the construction of the Nurekskaya GES can be seen clearly here. The same well known "worker competition" has been adopted. It has taken on its own new forms on the Baypaza. The brigade leader of the excavator operators, Gennadiy Pervutinskiy is by rights considered the successor to the initiative on the Baypaza. He was the first at the construction site to propose that his own collective change over to cost-accounting management. The idea was adopted. But right from the outset the collective ran up against the fact that it alone could not successfully set the work pace. Overall efforts are needed, primarily from related subsectors: transportation and tunnel drivers. Thus, the agreement on labor cooperation among the three sections of the production process cycle was born: the excavator operators, the drivers of the "BelAZ" vehicles and the tunnel drivers. Soon similar

agreements were signed in several other sections of the construction project. Such cooperation within the construction administration has been termed "small scale worker competition". The effectiveness of the creative beginning has been felt everywhere: specifically there where the brigades are working using the "small scale worker competition" method, the work deadlines are being markedly curtailed. For example, the half-year assignment of the brigade of G. Pervutinskiy and the blast-hole drillers of K. Grigor'yev was carried out one half month earlier that the planned deadline.

Now work has been stepped up in all sections. The concrete plant has started operation. The majority of the headworks of the Vakhsh-Yavansk tunnel has been completed and the driving of other underground routes is underway. The excavation under the GES building is being prepared.

The hour has struck for the Baypaza. It cannot be said that everything is going well at the important construction project of the five-year plan, since curtailed deadlines are required. For example, the brigade of N. Koshkin has driven 16 meters of tunnel during the month. This is very little. What is the matter?

"In better times," replies the brigade leader, "We drove up to 40 meters of mine workings with our brigade per month. Now though, we are losing a great deal because of the poor supply of concrete and construction materials. Everyday facilities have as yet not been set up on the construction project where one can wash and change, and we are experiencing difficulties with food - there is one dining hall in all on the site."

There are also other complaints. First of all, the construction project is poorly provided with equipment. Thus, the drilling rigs and rock loading machines which were delivered here from other construction projects are out of commission. The motor vehicle transportation is at the end of its service life.

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BRIEFS

NEW TURBINE FOR AES--High Power Turbine. The Yuzhno-Ukrainskaya AES has received the most powerful domestically made turbine for nuclear power engineering: a million kilowatt turbine. It was manufactured in the Khar'kov Turbine Plant production association. The series production of such large units has been started. "The turbine has great operational advantages," says the chief designer of the plant, Yu. Kosyak. "The enormous shaft of the unit rotates slower than usual. As a result, vibration has been considerably reduced and turbine reliability has increased. Its design required the solution of a number of engineering problems." For example, there is the high pressure cyclinder. In terms of its dimensions, it is several times larger than those manufactured before. Some 6,000 tons of steam will pass through the internal cavity of this steel capsule every hour. In order that the steam which is heated up to 300° and fed in at high pressure does not destroy the walls, the designers used computers to calculate the mechanical and thermal strength of each section of the shell. A lightened and maximally resistant capsule was designed. The rotor blades of the turbine, which are one and one-half times longer and much wider than before, make it possible to utilize the steam energy. Such a new approach was proposed by plant specialists in conjunction with the scientists of Khar'kov institutes: the polytechnical institute and the Institute of Machine Building Problems of the Ukrainian SSR Academy of Sciences. The rotating components of the unit are reliably protected against the exposure to flows of wet steam. The edges of the blades are tempered by high frequency currents. Moreover, small transverse grooves are cut in the stator blades to trap moisture. As a result, the majority of droplets, which fly at an enormous speed, cannot reach the surface of the rotor blades. The blades of the turbine would be subject to rapid wear if exposed to their continuous impact. [Text] [Moscow GUDOK in Russian 12 Aug 81 p 4] 8225

DZHAMBULSKAYA GRES--The collective of the Dzhambulskaya GRES imeni the 50th Anniversary of the October Revolution has started the generation of the fourth billion kilowatt-hours of electrical power since the beginning of the year. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 31, Jul 81 p 3] 8225

1.5 MV POWER TRANSFORMER--Testing of a 1,500 kilovolt DC transformer unit has started in Zaporozh'ye at the All-Union Scientific Research, Planning, Design and Technological Institute for Transformer Construction. No units of such capacity are known in practice. They are intended for the Ekibastuz--Center power transmission line. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 31, Jul 81 p 3] 8225

NEBIT-DAGSKAYA GRES--The third power unit of the Nebit-Dagskaya GRES has gone on line. It operates on by-product gas from oil fields. It is planned that electric power generation in Turkmenistan will increase by a factor of 1.8 during this five--year plan. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 35, Aug 81 p 3] 8225

HIGH POWER SEMICONDUCTOR PRODUCTION--The erection of the main building in the construction of the second stage of the "Elektrokondensator" plant has begun (Belaya Tserkov' in the Kiev oblast). When the new capacities are placed in service, the output of high power semiconductor devices to control electric power transmission lines at voltages of up to 1,500 kilovolts will be tripled. Their application will provide for complete servicing safety and high switching reliability on such high power electrical transmission lines as the Ekibastuz--Center and the Ekibastuz-----Ural. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 35, Aug 81 p 3] 8225

NEW BIMETAL POWER WIRE--The first batch of bimetal wire has been manufactured for the Ekibastuz--Center power transmission line at the Zaporzh'ye Metal Products Plant. Aluminum powder applied to a steel core serves as the conducting layer instead of expensive and scarce copper. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 18, Apr 81 p 3] 8225

MIATLINSKAYA GES--The Third in the Series. Makhachkala, the 24th. The builders of "Chirkeygesstroy" have poured the first concrete in the dam of the next hydroelectric power unit in the Sulak series: the Miatlinskaya GES. Its project engineering plan was developed by specialists of the Leningrad Department of the "Gidroproyekt" Institute imeni S.Ya. Zhuk. This is the third station in the series on the Sulak River in the mountains of Dagestan. An arched dam with the height of a 30 story building will be erected in the riverbed. [by V. Artemenko] [Text] [Moscow PRAVDA in Russian 25 Aug 81 p 6] 8225

THIRD SULAK GES--Makhachkala, the 10th. The arched dam of the Miatlinskaya water engineering system will join the banks of the Sulak. Construction was started on it today. The right of pouring the first concrete in the foundation of the dam was won by the brigade headed by G. Voyushch. The Miatlinskaya GES is the third station of the series on the Sulak. It is intended for the comprehensive utilization of the discharge of the mountain river. The station with a capacity of 220,000 kilowatts is being constructed under difficult mountain geological conditions. This is making corrections in the plans of the designers and builders. It was necessary to urgently restore the rock massif during the rush of the preparatory work so as to reinforce the landslide slope. The first unit of the Miatlinskaya hydraulic development is planned to go on line in 1983. [Text] [Moscow PRAVDA in Russian 11 Aug 81 p 2] 8225

CHEBOKSARY TETs--In the Optimum Mode. Cheboksary, the 31st. The TETs-2 has generated the first billion kilowatt hours of electrical power in the capital of Chuvashia. It is gratifying that the young staff is achieving good results in the fight for fuel economy. The specific fuel consumption norm per kilowatt of generated electrical power has been reduced by 2.5 grams. And grams add up to quintals and tons. Since the beginning of the year, the staff has saved more than 400 tons of fuel. [by special PRAVDA correspondent Yu. Knyazev] [Text] [Moscow PRAVDA in Russian 1 Aug 81 p 1] 8225

OSHSKAYA OBLAST POWER LINE--Electrical Power Transmission Line in the Mountains. The last diesel plant generating electricity has been shut down in the Alayskaya valley of the Oshskaya oblast. A high voltage power transmission line has been run to this large remote animal husbandry region through the steep passes of the Pamirs. The task confronting the electrical power engineers of the republic in the 11th Five-Year Plan is that of qualitatively improving the centralized power supply to all sectors of the economy, especially the kolkhozes and sovkhozes of remote regions. For this, ahead is the construction of almost 3,000 kilometers of high voltage power tranmission lines and more than 7,000 kilometers of distribution lines. [by K. Nikolayev] [Text] [Frunze SOVETSKAYA KIRGIZIYA in Russian 25 Jul 81 p 4] 8225

INSULATOR PRODUCTION STARTED--For the High Voltage Lines. Series production of insulators for ultrahigh voltage power transmission lines has started at the L'vov insulator plant. About 100,000 such insulators, for which there are no analogs in the world, have already been shipped out for the construction of the "Ekibastuz---Ural" and "Ekibastuz--Center" power lines. By the end of the five-year plan, the plant collective is obligated to manufacture about 10 million such products. [by L. Sotnik, L'vov] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 31 Jul 81 p 2] 8225

TALDY-KURGAN POWER LINE--On an Around-the-Clock Schedule. Taldy-Kurgan, the 18th. All of the large capacity winnowing stations of the Kazakhstan Semirech'ye have been placed on an around-the-clock schedule, where the massive bread grain harvest is underway. This has been made possible by the Taldy-Kurgan--Ushtobe 110 KV power line which was placed in service today. About 5,000 kilometers of new power lines have been strung since the start of the year in the republic, where the connection of the farm centers of all kolkhozes and sovkhozes to the state power grids was recently completed. [by B. Iskakov] [Excerpt] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 19 Jul 81 p 2] 8225

NIZHNEKAMSKAYA GES--The Sixth Power Unit on Line. The participants in the construction of the Nizhnekamskaya GES have won a new labor victory. The sixth power unit with a capacity of 780,000 kilowatts has been brought on line two months ahead of schedule. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 32, Aug 81 p 3] 8225

KIRGHIZ SOLAR POWER--The Sun is Operating. A "solar shower" has supplemented the life giving sun baths at the high mountain tourist center of "Chon-Tash": hot water is now provided to vacationers by a solar power facility. It was designed by scientists of the Kirgizskaya SSR Academy of Sciences, who headed up all of the design and production process work in the republic related to the use of solar energy in the national economy. "Solar power engineering is becoming one of the leading areas of scientific research in the republic," says vice-president of the Kirgizskaya SSR Academy of Sciences, O. Alimov, "Our kray enjoys exceptionally favorable conditions for the wide scale mastery of the inexhaustible energy of the sun. There are 320 to 325 sunny days a year here in the majority of regions, especially in the mountains, and the atmosphere is always clean and clear. Along with this, it is specifically the mountainous relief which makes it difficult to deliver mineral fuels here as well as electric power. The importance of solar power engineering is growing, especially in connection with the task assigned by the 26th CPSU Congress for the comprehensive mastery of the natural resources of

Issyk-Kul'skaya oblast and the regions of the Chuyskaya valley. Becoming active in the solution of this problem, the scientists developed unique wall panels, which will serve simultaneously as solar collectors - and heaters for residential and animal husbandry facilities, greenhouses and grain driers. Project plans are being developed for the comprehensive utilization of solar power: for heating and lighting homes, air conditioning and powering household electrical utensils. [Text] [Moscow IZVESTIYA in Russian 11 Aug 81 p 2] 8225

NIZHNEBUREYSKAYA GES--Two Jobs for a GES. Blagoveshchensk. The decision has been made to build yet another hydroelectric power station with a capacity of 290,000 kilowatts several tens of kilometers from the GES already under construction on the Bureya River. The new Nizhnebureyskaya GES will not just generate electrical power. Its dam will be a major regulator for the discharge of the river, which will make it possible to prevent the flooding of agricultural land in the Amur flood plain. The preparatory work for the construction of the new hydroelectric power station will begin next year. [by Yu. Baklanov] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 19 Aug 81 p 1] 8225

POWER LINE DAMAGE RESPONSIBILITY--The Main Production Administration for Power Engineering and Electrification of the Gruzinskaya SSR, "Gruzglavenergo", recalls that despite repeated explanations made by workers of power network enterprises concerning the importance of high voltage electric power lines and the necessity of strictly observing the rules for protecting high voltage power grids, approved by decree No. 2866 of the USSR Council of Ministers of 30 November 1953, and Ukase No. 390 of the Presidium of the Supreme Soviet of the GSSR of 24 March 1970 concerning the administrative responsibility for damage to high voltage electric power grids, without written authorization of the organization operating the power transmission line, for several years now, cases of construction, rebuilding, repair and other types of work have been observed in the protected zones of power networks. As a result of such operations, the metal and wooden supports are damaged and the electric power transmission lines are broken, something which disrupts the normal operation of the power grid and produces significant losses to the economy because of the interruption in the feed of electric power to industrial and agricultural consumers, and moreover, can lead to accidents. In accordance with the documents cited above, all ministries, departments and other organizations are obligated not to permit damage to electric power grids and should render the power supply organizations the utmost assistance. These documents also establish the measure of administrative and legal responsibility of officials and individual citizes for damage to electric power networks. [Text] [Tbilisi ZARYA VOSTOKA in Russian 17 Jul 81 p 4] 8225

VILNIUS TETS CONSTRUCTION--A Clear-Cut Rhythm. An important stage in the work of the construction of the Vil'nyusskaya TETs-3 has begun. The installers have begun putting up the main building of the station, the first stage of which should go on line in 1983. It will provide heat to the new large residential areas of the Lithuanian capitol. The chief engineer of the construction and installation administration, Yu. Garmus, shows a photograph which was taken about two years ago. Then, there was a large clearing here, encircled by a pine forest. You would not recognize this place today. Over the entire territory of the construction site, the rumble of powerful equipment does not cease day and night. The erection of

the construction base is being finished, and a complex of water purification facilities is being built while the approach branch railroad track is being laid. And all of this is only the beginning. About one million cubic meters of earth still has to be moved, reinforced concrete structures have to go up and tens of thousands of cubic meters of concrete are to be poured. There is a plethora of fittings in the bottom of the enormous excavation. The foundation for the 250 meter smokestack has been constructed. Alongside, in the main building, the boiler and turbine rooms will be layed out. Here, two turbine units with a capacity of 180,000 kilowatts will be installed. [Excerpt] [Moscow IZVESTIYA in Russian 13 Aug 81 p 1] 8225

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SURGUT RESIDENTS AIR COMPLAINTS AND RECEIVE ANSWERS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 22 Aug 81 p 2

[Article by Yu. Belanov, N. Goncharov, and V, Kremer, special correspondents: "People and Oil"]

[Text] If we made a calling card for the city, where, as our newspaper has already reported, the regular reader write-in of SOTSIALISTICHESKAYA INDUSTRIYA was held, it would look roughly like this: "Name--Surgut. Birthplace--Central Ob' region. Population--180,000. Average age of residents--27. Occupation--oil worker, builder, power engineer, geologist."

The small taiga village has stood on the steep bank of the Ob' for 4 centuries. Fishing and hunting were the main trades. Oil gave Surgut a new life. It became the base city, the reference point for developing the oil and gas fields of the Tyumen' North. The association "Surgutneftegaz" will provide a weighty percentage of all the oil increment planned in this five-year plan for the country's chief fuel and energy base. The underground storehouses here must yield double the liquid fuel of the previous 5 years, or almost just as much as has been produced since the beginning of industrial development of the Surgut fields.

This scope and these unprecedented growth rates and scales of accomplishments generate many complicated problems. These problems are not only production and economic, but also social and general which directly concern everyone who comes to inhabit this harsh northern kray. They were honestly discussed at a meeting of the Surgut workers with the party, soviet and economic leaders of the city, rayon, oblast, ministries and departments.

Everything Starts from the Road

Everyone who read our Surgut mail drew attention to one very remarkable feature of it. No matter what we asked the residents of Surgut, they think first of all about oil. This was noted by First Secretary of the Khanty-Mansiysk party okruzhkom V. Petrov who held the meeting. There was nothing unexpected about this: everyone here lives with a concern for Big Oil.

Those who answered the Surgut questions invariably spoke respectfully of the remarkable initiative of the Tyumen' workers to form competition for early attainment of extracting 1 million tons of oil and 1 billion cubic meters of gas. It is common knowledge that this initiative was approved by the CPSU Central Committee. Control dates were set: this quantity of oil per day will be extracted in April 1984, and gas, in the first quarter of 1985. Is it impossible to accelerate these accomplishments? What is the contribution of the Surgut residents to them? The response was unanimous: extraction of liquid fuel can be increased. On the other hand, wastefulness needs to be decisively stopped and economy should be achieved in all areas. The economy must be economical was the basic direction of the 26th CPSU Congress. As shown at the meeting in the Palace of Culture and Technology "Neftyanik," this aim found a warm response in the worker audience.

A note from the mail: "At one of the meetings, the Minister of the oil industry, Comrade Mal'tsev said that it is impossible to go to new fields if the preparatory work has not been done, if there are no roads or power transmission lines. It is true that this results in high additional outlays. But in fact this happens quite often."

Deputy Minister of the oil industry G. Popov: "It has to be admitted that the ministry and Glavtyumenneftegaz have allowed omissions in this matter. In the 10th Five-Year Plan we went to new fields without sufficient preparation in a number of cases. This resulted in idling of the brigades and inefficient use of the equipment. It caused many other difficulties. Measures have now been taken for accelerated construction of roads and power transmission lines."

Remark from the auditorium: "What about the Povkh field?"

G. Popov: "Povkh was a bitter lesson for us. Work on this field has been delayed up until now because of a lack of a road that should link it to the Kogalymskaya station. This will not be repeated. I can report to you that the minister has signed an order which forbids starting development of new fields without the appropriate preparation."

Question: "The Ministry of the Oil Industry recently made a basic rate to attract drillers from other regions of the country. Would it not be better to reinforce the local drilling enterprises with personnel instead?"

G. Popov: "Calculations show that West Siberia cannot do without the duty-expedition method. I will show this in the following example. In the association "Surgutneftegaz," the visiting collectives drilled almost 2 million meters of the 3.5 million meters of wells last year. That is, they were responsible for 57% of all the tunneling. We could not extract the volume of oil that we currently are in this region without this kind of support."

The statistics are convincing. Nevertheless, if we weigh all the pros and cons on the scale of economics, it has to be admitted that the expedition method places a heavy burden on the net cost of the Tyumen' oil. This method of working should evidently be viewed only as a temporary measure at this stage of development of the complex. The main approach is to set up strong and permanent working collectives here, on the Siberian soil.

Departmental Limit

Question from the mail: "The Surgut population is increasing rapidly. The housing situation is very complicated. Many people still live in primitive structures and overpopulated dormitories. Moreover, each organization builds houses according to their own plan, according to various designs. Who is a better builder or a worse one depends on the resources of the departments and the forceful capabilities of the leaders. Would it not be better if the gorsovet took charge of housing construction?"

Chairman of the Surgut gorispolkom, N. Anikin: "Let us first pinpoint what it means to "take charge" of municipal construction. Industrial enterprises construct the main portion of housing and cultural-general purpose facilities even in major, established cities on this "big earth." They use deductions from profit for this purpose, as well as the resources given to them by the ministries and departments.

The same happens in Surgut. The association "Surgutneftegaz," the GRES, the associations "Surguttransgaz" and "OB"neftegazgeologiya," and other leading enterprises build the housing for their workers and family members. They currently operate the housing fund. It is premature to speak of transferring the entire municipal economy and communal services to the gorsovet's management. We do not have the appropriate base or equipment for this.

It is another matter that the gorsovet should see that the city develops according to the general plan and does not allow "independent action." We do have the necessary authority for this. But I must admit that we still do not use it fully.

Departmental separateness has made itself felt. The Ministry of the Oil Industry was designated as the general customer to build water mains and sewer systems. The functions of the general planner were given to the Leningrad Zonal Institute of Experimental and Model Designing of Residential and Public Buildings. There is no general contractor in the city. There are therefore serious difficulties in developing the municipal economy on a single plan. About 10 ministries have been "bound" to constructing housing and social, cultural and general facilities: the Ministry of Construction of Oil and Gas Industry Enterprises, USSR Ministry of Power and Electrification, Ministry of Transport Construction and others. It is not easy to follow the actions of the numerous builders and to agree."

Question from the mail: "Our settlement "Zvezdnyy" is surrounded on three sides by a railroad. The loading-unloading platform is located under the very windows of the houses. There is no bus connection with the city. How long will we live under these conditions?"

N. Anikin: "Here is a graphic example of the departmental approach to housing construction. The leaders of the house-building kombinat located the settlement directly in the industrial zone in violation of all standards and regulations. Now the mistake has to be corrected somehow. The ispolkom has demanded that the house-building kombinat move the people from these houses into the city. But a certain time is needed for this, as you understand. An order has been given to fence the settlement and install signs banning the entrance of freight transport. The roads are being widened and then the municipal buses will begin to come here."

Note to the presidium: "Why are the roads in Surgut in poor condition? Who is responsible for their repair?"

N. Anikin: "The municipal roads are distributed among 22 different organizations which are responsible for maintaining them in good condition. The association "Surgutneftegaz" is now repairing the detour route, and widening the public road section of the concrete road towards Belyy Yar. The river port has exported the slabs to repair the Shchepetkina Street. Karamova Street has been repaired by the municipal repair-construction administration. The streets in the microregions of oil and power engineering workers, as well as 30 let Pobedy Street will be put into order during the summer.

As you see, a lot is being done. The road condition, nevertheless, leaves something to be desired. We are now raising the question of creating a unified road-operating organization in Surgut. I think the situation of the municipal roads will improve if this problem is solved."

Question from the mail: "Chairman of the gorispolkom, Comrade Anikin has promised several times that the shift buses will pick up passengers going in their direction. However they shoot past the stops half-empty as before. Why?"

N. Anikin: "We have received these signals. The ispolkom has obliged seven departmental transport enterprises to allocate 29 buses daily to carry people going in their direction. According to our data, 380,000 people used their services in the first 6 months of this year alone. We are setting up strict control over the fulfillment of this decision."

Question from the mail: "Why are the young unmarried specialists settled in well-built apartments, while there are not enough for people with families?"

N. Anikin: "This is a forced measure because of the shortage of dormitories. The Surgut house-building kombinat recently mastered production of dormitories for 360 places. You have probably already seen them on the city streets. The young people will mainly be settled in these dormitories. Speaking in general about solving the housing problem, it is planned to build 1.2 million square meters of housing in the city in this five-year plan. This is the same amount that was built in the entire history of Surgut."

The very fact that a good half of the notes dropped in the mailbox of SOTSIALISTICHESKAYA INDUSTRIYA and coming in during the meeting referred to shortcomings in the housing-daily life sphere generated by the departmentsl open-field system says a lot. The gorispolkom often does not know beforehand, and only corrects errors of the numerous organizations involved in housing construction and communal services for the Surgut residents after the fact. The meeting participants correctly believe that the municipal powers should act more decisively in improving the life of the people and satisfying their daily needs.

Question from the mail: "We have a saying that it is easier to reach the neighboring organization on foot or by car than to call them up. This is true. It is not easy to get through the departmental switchboards. When will there be a unified telephone network in the city?"

Head of the main administration of intercity telephone communication of the RSFSR Ministry of Communications V. Cherepanov: "In fact, there are 16 small telephone stations belonging to different departments which are now operating in the city. Only half of them have an outlet to the general use network. In the beginning of this year, as you know, an automatic telephone station for 7,000 numbers was started up. This is little for such a city, of course. The republic Ministry of Communications has the possibility of allocating for Surgut one more automatic telephone station with a capacity of 10,000 numbers. The problem is to build a standard building for it."

Question from the mail: "Why are there no public telephones in Surgut?"

V. Cherepanov: "Most likely there were not any because there was no municipal automatic telephone station. Eight public telephones have now been installed. (Laughter in the auditorium). Now comrades, everything is not done at once. Before the end of the year it is planned to bring the number of public telephones to 30."

Note from the auditorium: "Perhaps the chairman of the Ministry of Communications will explain why telegrams are not delivered on time?"

V. Cherepanov: "These situations have occurred. They are explained primarily by the poor technical equipping of the local communications enterprises. By a decision of the ministry, the Surgut communications workers will be allocated additional transportation in 1981 to deliver telegrams around the city."

Question from the mail: "Is it not time to switch Surgut to a centralized system of trading food and industrial commodities? How long will the sections of worker supply and the administrations of worker supply do this?"

Deputy head of the oblast trade administration R. Kamanina: "This reorganization is not planned in the 11th Five-Year Plan. First of all, because Surgut still has a weak material and technical base for trade: there are not enough stores, warehouses, storehouses or coolers. The resources and potentialities of the departments are still considerably higher than those of the RSFSR Ministry of Trade. At the same time, the situation where nine departmental systems are operating in the city elicits the justified criticism of the residents. In this situation, the material and labor resources of the trade enterprises are used inefficiently and it is difficult to set up study of demand. All of this affects the buyers in the final analysis.

We suggest that the problem be solved as follows: a system of master, or as we say, monopoly trade should be introduced into the cities of the Tyumen' North. In Surgut this will be the trade system of the Ministry of the Oil Industry. The interested ministries must transfer to the oil workers the stores and warehouses for that contingent of people that live in the city limits. Other departmental systems will take care of the people who have transient type of work. I think that this measure will permit more systematic development of the trade network with consideration for its specialization and concentration, and will satisfy the demand more fully."

Question from the mail: "Why is Surgut poorly supplied with vegetables and fruits? This is the number one product for the northerners."

R. Kamanina: "This year we were not given a full volume of only the seed-fruits, plums, sweet cherries and sour cherries. All the other fruits and vegetables, with the exception of imported supplies, the oblast obtains by order. This means that Surgut will also be supplied with them. But cucumbers, for example, we ship to the north by airplane. This is very expensive. Construction of greenhouses therefore needs to be more widespread. If there is 1 square meter of greenhouse for each Surgut inhabitant, we would always have fresh vegetables on the table. I think that the Surgut enterprises are quite capable of solving this problem."

Voice from the auditorium: "Why is there no river fish in the stores?"

R. Kamanina: "I can make you happy. The decision has been made to leave 80% of the river fish catch to sell to the local population. This situation will thus be corrected, if, of course, the Surgut fishermen do not let down their countrymen."

Measure of Responsibility

Question from the mail: "The third phase of the Surgut GRES is already under construction, while the volume of unfinished work that influences the conditions of work, life and rest of the people, as well as the reliable operation of equipment rises from year to year. The central materials warehouse, nitrogen-oxygen station, automobile services and other facilities have not yet been started up. Housing is being built slowly. There is no Palace of Culture for a thousand places, trade center, dispensary, cooler as stipulated by the plans."

Deputy head of "Soyuzzapsibenergo" V. Korobov: "Three and a half million rubles of capital investments have been allocated this year to eliminate the incomplete work on the first and second phases of the GRES. These resources are being successfully assimilated. Next year it is planned to allocate 4.5 million rubles for construction of a pioneer camp. dispensary, automobile services and warehouses of material and technical supply."

We will say point-blank that this response did not satisfy the meeting participants. Generously allocated millions to eliminate its own incomplete work do not characterize the style of operation of the USSR Ministry of Power and Electrification in the best light.

The mail of SOTSIALISTICHESKAYA INDUSTRIYA had many signals that the local power engineering enterprises and construction trusts were not capable of satisfying the many urgent needs of their workers who comprise a considerable part of the Surgut population. They have not coped with transporting the workers of the GRES and the trust "Zapsibenergostroy" to their places of work and back. There are not enough cafeterias. There are many complaints of the poor organization of public services and amenities in the "Energetik" microregion.

The workers waited for the representative of the branch headquarters to state which specific measures the ministry is taking to help the Surgut organizations. Unfortunately, V. Korobov was not able to answer many critical questions. He did not blame himself. According to his words, it was not so much the power engineers who were responsible for the shortcomings, as "someone else."

Question from the floor: When will the reliability of the electricity supply to the Surgut oil fields finally be increased?"

V. Korobov: "Only 66 disconnections of electricity have been recorded in the first 6 months of 1981. Nine of them were the fault of the Ministry of the Oil Industry enterprises and 23 were the fault of outside organizations."

Question from the mail: "When will a professional technical school be built in Surgut to train skilled power builders?"

V. Korobov: "Our estimates stipulate outlays totalling 1.2 million rubles to build a professional technical school for 600 students. But this question has not yet been completely resolved."

Question from the mail: "Why are better houses built for the oil workers than for the power engineers?"

V. Korobov: "We are currently receiving houses in the 121st series which do not meet modern requirements at all. But the apartments will become better with the start-up of the house-building kombinat of the USSR Ministry of Power and Electrification."

The last answer needs comment. Comrade Korobov prudently said nothing about the fact that the USSR Ministry of Power and Electrification has unjustifiably drawn out setting up of an in-house base of the construction industry in the energy center of the country's main fuel region. A decision to build a plant for reinforced concrete items in Surgut was only made when the largest GRES in the Urals was already operating, and when the first microregions of power engineers grew up which were built out of imported panels of the outdated series. Even now the situation is no better. It is planned to start-up the first phase of the plant with output of slightly more than half of the rated capacity only in 1982.

The first secretary of the Khanty-Mansiysk party okruzhkom V. Petrov stressed that the leaders of the USSR Ministry of Power and Electrification often avoid directly answering questions that disturb the oil workers and power engineers of the kray. We think the observation is correct. Here is a note from the auditorium that was signed by the secretary of the party committee from the trust "Zapsibelektroset'-stroy" V. Ivanov: "The fact that at this meeting the USSR Ministry of Power and Electrification is represented by the deputy head of the association, Comrade V. I. Korobov shows once more the degree of interest of our ministry in the problems of developing power engineering of the Tyumenskaya Oblast."

The problem, of course, is not in the "level of representation," but in the fact that at the meetings with the workers there should be fairly competent people, and more important, people with the necessary authority to rapidly solve a certain problem.

The position of the Ministry of Construction of Oil and Gas Industry Enterprises is also puzzling in this respect. The questions that were in the mail of SOTSIALISTICHESKAYA INDUSTRIYA and which contained claims against this ministry were sent in advance to the Ministry of Construction of Oil and Gas Industry Enterprises. Minister Boris Yevdokimovich Shcherbina assured the editorial staff that his deputy V. Chirskov who is touring West Siberia would answer them. Comrade Chirskov was in the Tyumenskaya Oblast on those days, but for some reason was not at the meeting with the workers.

The First Duty

Many notes that the newspaper received were of an especially personal nature. Someone was by-passed in distribution of apartments, someone's child did not get into kindergarten, someone was unjustly deprived of a bonus.

Among them was the letter of V. I. Lebedevaya. A day before the meeting in Surgut, the editorial mail brought a new letter, signed with the same last name. It had only several lines: "I appealed to the newspaper to provide accomodation for my child in the sanatorium. I would like to report that this request has already been satisfied."

Many other questions were resolved. Apparently the posters about the imminent meeting with the workers which were hung in the busiest places served as an additional reminder about the first duty of each leader: to place concern for man and his daily needs and inquiries in the center of attention. It is characteristic that many of the speakers who generally had a short time to check the signals and complaints they received, did not limit themselves to promises, but in a number of cases were able to report specifically about measures taken.

Note from the mail: "The majority of brigades of geological explorers work in the region of the Ob' river in the summer. We do not have a single boat to transport people and cargo."

General director of the association "Ob"neftegazgeologiya" V. Parkhomovich: "This is a just remark. We approached the Glavtyumengeologiya about this. The Surgut geologists have been allocated hydrofoils of the type "Raketa." Many have evidently successfully used them already."

Question from the mail: "Why do we have a flourishing trade of scarce goods according to the reports of the leaders?"

R. Kamanina: "This is a gross violation of the rules of Soviet trade. The commission of our administration was sent to Surgut to verify this. I can assure you that the strictest measures will be taken against the guilty parties."

Note from the mail: "The head of the trust "Surgutneftepromstroy" V. Chernyshev has two "Ziguli" make cars which were allocated for sale to his cousin who has no relationship to the trust, and three cars to his personal driver. How does this fit into the party ethics of leadership?"

Secretary of the Surgut CPSU gorkom V. Lopatkin: "We have dealt with all strictness and will deal with communists for any misuse of their service position, for violation of the party and state discipline. The party commission checked out this situation. Comrade Chernyshev was strictly punished on the party line, and this morning I was told that an order was signed to remove him from his position. Other leaders of this trust who have permitted various misuses have been made answerable to the party."

Question from the mail: "Some of our leaders furnish their offices with excess luxury: imported furniture and expensive color televisions. Is it not time to end the wastefulness at state expense?"

General director of the production association "Surgutneftegaz" A. Usol'tsev: In fact, until yesterday I had a color television in my office, although I could have done with a simpler one. I can report to you that today I issued instructions that it be given to the leading brigade of drillers of foreman Ramzayev (approving rumble in the auditorium). I apologize that I did not do this earlier. As for the furniture, let us consult on this. It will most likely not be comfortable if visitors and guests to the association that occupies the second place in the union for oil extraction have to sit on birch stumps."

The people of Surgut sent about 600 questions to SOTSIALISTICHESKAYA INDUSTRIYA and asked the leaders during the meeting itself. The interesting conversation in the Palace of Culture and Technology lasted almost 4 hours. Of course it is impossible to relate everything in this newspaper report. Some of the questions which require study and verification we sent immediately to the ministries and departments and local organizations to take measures. What has been specifically done with the requests and suggestions of the Surgut inhabitants will be reported in SOTSIALISTICHESKAYA INDUSTRIYA as answers are received, as well as in the Surgut newspaper K POBEDE KOMMUNIZMA.

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FUELS

DEVELOPMENT OF TYUMEN' OIL AND GAS COMPLEX HIGHLIGHTED

Introductory Remarks

Moscow STROITEL'NAYA GAZETA in Russian 12 Jul 81 p 1

[Article: "One Billion Cubic Meters of Gas Per Day"]

[Text] It is the goal of the integrated competition by participants in the development of the West Siberian fuel and energy complex to reach this level of gas extraction in 1985. Urengoy is the main gas storehouse which has to be developed in West Siberia in accordance with the decisions of the 26th CPSU Congress. Fuel extraction began there only 4 years ago, and it is already in first place. In 1985 it will produce 250 billion m^3 of the 600-640 billion m^3 which will be extracted in the country.

An annual volume of construction-installation work totalling 500 million rubles remains to be done on build-up of the gas fields alone. Four units for comprehensive gas preparation and hundreds of kilometers of interfield roads need to be put into operation even now.

The successful fulfillment of the gas extraction program is impossible, however, without the advance development of an infrastructure, that is the advance construction of power engineering facilities, roads and railroads, housing and social, cultural and general facilities, and the introduction of intensive methods of working and efficient forms of competition. The material published below covers the problems of Urengoy development.

Extracting the Urengoy gas is only half of the problem. It has to be shipped to the consumers rapidly, without losses, and with the least outlays.

Future issues of STROITEL'NAYA GAZETA will discuss how integrated competition is evolving among the subcontractors at the largest construction site of the first year of the new five-year plan, the Urengoy-Nizhnyaya Gura-Kuybyshev-Petrovsk (Saratovskaya Oblast') gas pipeline.

General Contractor Problems

Moscow STROITEL'NAYA GAZETA in Russian 12 Jul 81 p 1

[Article by M. Buyanov, Hero of Socialist Labor, USSR State Prize laureate, brigade foreman of the Sibkomplektmontazh association: "Technology and Organization"]

[Text] Gas and oil means more than pipelines. It means a large number of surface facilities: compressor and pumping stations, boiler houses and UKPG [units of comprehensive gas preparation]. Should they be built directly at the sites "brick by brick"? This takes a long time, is expensive and does not result in good quality. This is why the Sibkomplektmontazh association was set up in Tyumen'. Its plants assemble equipment in blocks, place them in block-boxes, test them, and then send them by truck, ship and plane to the construction sites. The installers place the block-boxes on the foundations, connect them together and to the outside circuits. The facility is ready to run.

However the result is not always achieved in practice. We came with the general contractor to the construction site of the "Bogandinskaya" compressor station in September, and delivered it to the customer in January. This is a record in a way. We managed quickly because the equipment was in place in time. The general contractor did not delay the zero-point cycle. The work was organized on the production line principle at the construction site, and the "Worker's Relay Race" was in effect.

After the "Bogandinskaya," the brigade flew to the north to build the compressor station "Pripolyarnaya." In addition to it, Sibkomplektmontazh was to install three more stations "Sos'ba," "Komsomol'skaya" and "Pelym" one after the other in the same region. It was suggested that they be built by the production line method. But we encountered old troubles. The general contractor did not succeed in preparing the zero-point cycles on schedule. The client was not confident that he would receive the equipment needed for the installation in time.

Sibkomplektmontash works on a subcontract, although it does the lion's share of the construction and installation. Its work technology is such that it is necessary to have advance work done already in the first quarter: documents, resources, equipment for next year's program. We sometimes do not even know what facilities we will be working at in the next quarter. The client, Tyumen'gazprom, does not know what facilities will be started up next year, not to mention the distant future.

Labor outlays are reduced several times in building surface facilities of gas fields if the complete-block method of construction is used. It does not have to be proven that it is easier to assemble equipment from loose parts into blocks under the roof of a specialized plant, in the warmth, than at the construction site. The block-boxes sometimes arrive at the construction site empty, without equipment, however, because of discord of economic interests of the machine builders, customers and builders.

Bureaucratism Blamed for Shortcomings

Moscow STROITEL'NAYA GAZETA in Russian 12 Jul 81 p 1

[Article by B. Trofimov, head of the section on oil, gas industry and geology of the Tyumen' CPSU obkom: "Not by Numbers, by Ability"]

[Text] B. Trofimov, head of the section on oil, gas industry and geology of the Tyumen' CPSU obkom stresses that the Tyumen' oil and gas complex needs to be developed in the new five-year plan not by numbers, but by ability.

Despite the more than double increase in the volume of capital investment in the new five-year plan, the number of workers in the sector will grow only 35-40 percent. The builders' and installation workers' collectives have accumulated extensive experience in the rapid construction of facilities and transport communications in the uninhabited reaches of this region. The integrated-block method has achieved significant development.

However, just in the past five-year plan, serious disproportions in the development of the complex were noted. For example, the gap in the rate between industrial and civil construction. It is now being surmounted thanks to the help extended by the house-building collectives from Moscow, Leningrad, the Union republics and oblasts of the RSFSR.

But the regional base of the construction industry must be developed more decisively. The base of the USSR Ministry of Industrial Construction is especially weak. Its contracting organizations mainly live on imported resources.

The Tyumen' workers have serious claims against the USSR Ministry of Power and Electrification. The facilities of its contracting organizations are also quite insufficient. At one time the USSR Gosplan expressed the opinion that there would be a surplus of electricity in Tyumen' in the 1980's, therefore it did not hurry to build large gas-based power plants in Surgut and Urengoy. In fact the opposite prediction was confirmed: an energy shortage has developed in the region even now and we are forced to transfer energy from the Urals, but there is still not enough.

The compressor stations on the main gas pipelines are powered from the local circuit from temporary power plants, and the number of workers in the electric shops of these plants is half the personnel of the actual compressor stations. The power plants use one-tenth of the gas which is transported on the pipelines. The temporary circuits for energy supply do not permit complete automation of operation of the main gas pipelines. In the final analysis this results in multimillion losses for the country's economy.

The office of the party obkom recently adopted a decree on measures to organize the construction of gas pipelines in a new "corridor" in which several lines will be laid from Urengoy to the western regions of the country. Well-planned settlements have to be built for the workers all along the route.

It is important to overcome bureaucratism more rapidly. Instead of cooperating to build facilities of the social and production infrastructure, until now the ministries have only created settlements "for themselves." The local party and soviet agencies have not always succeeded in overcoming this tendency. The oblast party committee is therefore focusing a lot of attention on the interdepartmental territorial commission under the USSR Gosplan for development of the West Siberian oil and gas complex which was recently set up in Tyumen'.

Roads Needed

Moscow STROITEL'NAYA GAZETA in Russian 12 Jul 81 p 1

[Article by Yu. Goryainov, deputy head of the all-union association Tyumen'gazprom: "Transportation"]

[Text] Construction and installation work is currently underway on the seventh and eighth units for comprehensive gas preparation. But there are still no concrete roads up to the second unit of comprehensive gas preparation. The lack of roads impairs the normal operation of the fields.

The Ministry of Transport Construction does not have enough forces at Urengoy. The ones that are there are used inefficiently. The Tyumen'dorstroy constantly needs road slabs. When there are no slabs, the brigades stand around more than they work.

Even causeways significantly facilitate the economic dash to the north. They permit freight to be delivered here year round, and not only in the period of navigation on rivers or on winter roads when the frosts cover the swamps. However, a branching "circulatory" system of good concrete roads is needed to drastically improve the effectiveness of capital investments to Urengoy.

[Article by our correspondent]

[Text] Road construction in West Siberia can be accelerated if synthetic nonwoven materials are actively introduced in the laying of the road bed. The USSR Gosplan, USSR Gossnab jointly with the Ministry of the Chemical Industry and other departments held meetings, "took measures" to develop this type of road construction, but they remain on paper for the most part.

Development of a railroad network in the region is a no less urgent matter.

The railroad could have been brought to Novyy Urengoy itself this year (the leaders of Tyumen'stroyput' insisted on this, by the way). Only 80 kilometers remained to go. But the order of the minister of the Ministry of Communications mentions that the pouring of the road bed to Novyy Urengoy will only be completed by December and the rails will be laid only on 20 kilometers.

It has long been suggested that Urengoy be connected by a major railroad to Nadym (the single-gage short line which is on the books of the Ministry of Construction of Oil and Gas Industry Enterprises has now been restored here) and further with Salekhard (Labytnangi). Then the main gas region in the country would have a year round connection to the country's railroad network in a latitudinal direction.

Social Infrastructure Construction Lagging

Moscow STROITEL'NAYA GAZETA in Russian 12 Jul 81 p 1

[Article by A. Skorobogatov, head of the material and technical supply administration of Glavtyumenneftegazstroy: "Social Infrastructure"]

[Text] The construction plan for social, cultural and general facilities in the young cities of the Tyumen' northern region was not fulfilled last year. The assignments at these facilities are now being fulfilled by an average of 70%.

The fact is that in contrast to housing, the kindergartens, schools and hospitals in the north are built of brick. Glavtyumenneftegazstroy receives comparatively little local Tyumen' brick. The oblast does not have the plants for the rapidly rising volumes of construction. The neighboring oblasts supply the brick. They let down the northerners.

The Nezevayevskiy plant of the Ministry of Transport Construction in the Sverdlovskaya Oblast has not started making shipments at all. The Novosibirsk oblispolkom for some reason excluded shipment of 950,000 bricks to Tyumen' from the second quarter plan. The Oma workers also let us down.

The deputy chairman of the USSR Gossnab, B. Ivanov was in the Tyumenskaya Oblast not so long ago. He became acquainted with the situation in detail. Glavtyumenneftegazstroy soon received a copy of the telegram sent from Moscow to our negligent suppliers: "Kemerovo, oblispolkom. Brick shipments to the Tyumenskaya Oblast are being made unsatisfactorily. With a 6-month plan of 2.4 million, 1.074 million bricks were shipped. The RSFSR Gossnab asks you to take measures to boost the shipments and compensate for the undershipments. Deputy chairman of Gossnab Ivanov."

Pay attention to the words "asks you." Our suppliers received such telegrams from Gossnab last year. They do not oblige them to do anything. Should one really use a tone of exhortation in dealing with disruptions in the shipment discipline?

[Article by our correspondent]

[Text] "About a thousand of our masons work with interruptions," the chief engineer of Tyumen'stroyput' O. Shaposhnik told our correspondent. "We have received less than 10 million of the annual fund of 70 million bricks. This year the main work of the transport workers is civil construction. We will erect housing and service center structures on the Surgut-Urengoy railroad line. We have to put the Surgut-Noyabr'skaya section into permanent operation next year. The plants of the Uraltransstrom trust have let us done very much."

There are still very few prefab comfortable houses in the temporary settlements of the builders. It is true that modern houses and facilities of social, cultural and general use have begun to be erected in Urengoy (including with the aid of the Leningraders), but the flood of primitive structures in the vicinity of the settlement is not diminishing. This interferes with the successive resolution of the problem of creating stable collectives of builders and gas extractors.

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CONSTRUCTION OF ZAPOROZH'YE TRANSFORMER PLANT LAGGING

Moscow PRAVDA in Russian 25 Sep 81 p 2

[Article by I. Sergeyeva, outside correspondent of PRAVDA: "The Minister Was in Charge"]

[Text] The first cubic meter of concrete was laid in December of last year in the framework of the building intended for production of superpowerful transformers in Zaporozh'ye. They will be used on the largest direct current power transmission lines Ekibastuz-center of the country with voltage of 1,500 kilovolts, and Ekibastuz-Urals with alternating current of 1,150 kilovolts. Both of these power transmission lines have been named by the 26th CPSU Congress among the important construction projects of the five-year plan.

Such powerful and lengthy power lines have never been built in our country. The equipment that has to be made in Zaporozh'ye must meet the highest requirements. The new structure also promises to be unusual in many respects. For the first time it uses a number of new architectural and structural solutions and complicated equipment will be installed.

The general contractor, the "Dneprostroy" construction administration, must assimilate 4.5 million rubles this year. This is not much when you consider that transformers are to be manufactured in the assembly bay already in 1983. A counter plan was spoken of at the meeting in honor of laying the first cubic meter of concrete. The opinion of the client, planners and builders was unanimous: this plan is necessary, otherwise the over 40 million rubles, the estimated cost of the facility, will not be successfully assimilated in 2 years.

It is nearing the end of the ninth month of the first year of the five-year plan. What is the situation at the construction site?

"It is unimportant," answers the head of "Dneprostroy" B. Kuz'menko. "We are not fulfilling the plan. Our best integrated brigades, headed by V. Antonov and A. Krovopishchenko, concluded a contract with the subcontracting collectives of construction administration No 585 of the "Ukrspetsfundamentstroy" trust, but it is not being observed. The foundation-builders, after preparing the containers to lay over 2,000 cubic meters of concrete in the building foundation, stopped working. A hitch developed in the entire chain."

According to the plan, this year the construction site should lay 43,000 cubic meters of concrete, including 13,000 into the pile-supported foundation of the building. Three-quarters of the year have passed and one-third of the plan has been fulfilled. All the brigades are essentially working 10 days a month. The rest of the time they are idle.

We travel to the construction site. It is not yet impressive. There is peace and harmony here. Work is being done on only one of the main housing bays. Holes in the ground are visible everywhere. These are the "mouths" of the drilled wells. Concrete has to be poured into each one of them in order to form a piling under the earth. The framework will stand on them. But the builders do not have any cement. The construction site has had a shortage of over 8,000 tons since the beginning of the year. It is true that the head of the construction-installation administration D. Zurnachidi hopes that the situation will be corrected before the end of September, however this optimism is not yet reinforced by action. The minister of power and electrification P. Neporozhniy took charge of allocating an additional 8,300 tons of cement to the construction site over 3 months ago, but the branch suppliers are not hurrying to fufill this order. When the incessant rains come, it will soon be more difficult to deliver the materials to the construction site.

There are other unresolved problems. The client, the production association "Zaporozhtransformator," has not yet prepared the data to design the production equipment. This impairs the work of the designers. They have not prepared the documents needed to construct the zero-point cycle.

At the same time the superpower power transmission lines are being built at full speed. The builders are increasing the work rates. The national economy of the European sector of the country and the Urals are waiting for the electricity of the Siberian and Kazakhstan GRES's. Will it turn out that the new power transmission lines will be idle because of the lack of transformers? This cannot be allowed.

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